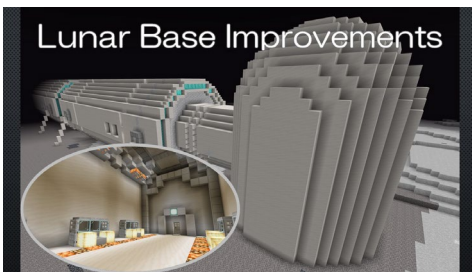




Invitation to the lunar missions from JAXA

Many kinds of expertise are essential to thrive in the lunar environment. JAXA needs your ingenuity and creativity to survey and build facilities on the lunar field. Seven missions await you. Choose the one that appeals to you the most and take on the challenge.

<Mission 1: Lunar Base Improvements>



The Lunar Base has both laboratory and residential modules. Take a walk around the modules and the corridors between them.

What are your impressions? How do they compare to the houses and schools on Earth?

The lunar base, designed for various individuals to live comfortably and perform diverse tasks over an extended period, is not yet optimal. Use your creativity to develop for turning the base into an enjoyable and functional lunar habitat.

<Mission 2: Farm Improvement>



What is your favorite food?

The lunar inhabitants grow wheat and potatoes in the farm modules. Wheat for bread, potatoes for tasty baked snacks.

We need to grow different kind of crops before the food we brought from Earth runs out. We also need to grow for fuel. There is a lot to do! Let's improve these farms to support lunar living.

<Mission 3: Surveys and Effective Use of Lava Tubes>



Vertical holes that could lead to underground lava tubes on the Moon have been identified using data from the lunar orbiter "SELENE". They are of particular interest because they provide areas at which humans could operate in safety. The area of interest could act as a shield from harmful cosmic rays and minimize the severe temperature fluctuations between day and night.

There are three entrances, vertical holes (shafts), leading to the lava tubes waiting for you to explore. Find for yourself these lava tubes are and discuss ways to use the space effectively. New opportunities for Lunarcraft activities will follow when safe environments and conditions are secured.

<Mission 4: Establishing a Resource Mining Base>



A lot of time, effort and money to transport resources from Earth to the Moon, and it is very challenging. On the other hand, procuring these resources on the Moon would be much more efficient. We will use local resources to build an efficient extraction base to sustain life on the lunar surface. Let's find out what kind of resources the Moon has to offer.

What facilities are necessary for effective and innovative resource mining on the Moon? How do we use these Lunar Resources? The nature of the resources will influence the design of mining machinery. What powers these machines? Can we use the same machinery as on Earth?

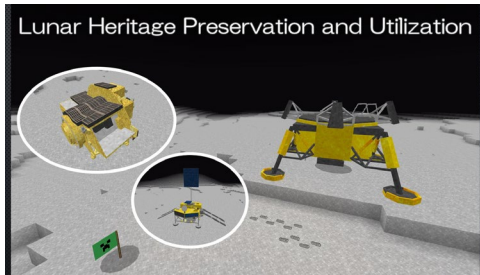
<Mission 5: Launch Site Development >



The rocket launch site is essential for those living and working on the Moon to commute to Earth and back. The facility must include taxiways (roads) to the launch pad and the control towers.

What types of rockets will be launched? Are they reusable? What type of propellant will the rockets use? How will fuel be obtained on the Moon and how will the fuel be loaded? What capabilities must the launch site have to operate and manage rocket launches and spacecraft departures? Design your lunar launch site.

<Mission 6: Lunar Heritage Preservation and Utilization>



Traces of human activity on the Moon in the past are considered to be historically and culturally significant. Various craft have landed on the Moon and left objects behind.

However, they are subject to degradation due to intense cosmic and ultraviolet radiation. What will we do to preserve them? Considering their historical and educational value, it would be nice to preserve and display them in showcases or even museums. Let's study what kind of objects have been on the Moon and their locations. Plan a lunar relics or museum project.

<Mission 7: Building New Houses>



As humans remain on the Moon for longer periods of time, new arrivals from Earth may join them, forming families that could eventually overpopulate the existing lunar habitats. In such a scenario, diverse housing options will be needed for a variety of households-individuals, families, or people with physical disabilities-who choose to continue living on the Moon without returning to Earth.

What kind of dwellings should there be? Imagine new living spaces on the Moon.